

IN THE CLAIMS:

Please **AMEND** claims 1, 5, 7, 13, 17, and 19, as follows:

1. (CURRENTLY AMENDED) A positive electrode for a lithium-sulfur battery comprising:
a current collector having pores comprising at or greater than 60% porosity and less than 90% porosity based on an overall volume of said current collector; and
a positive active mass comprising a sulfur-based active material, a conductive agent, and a binder disposed in the pores of said current collector,
wherein the current collector comprises one of a metal foam having the pores and a non-woven fabric coated with a metal to provide the pores.

2. (PREVIOUSLY PRESENTED) The positive electrode of claim 1, wherein the sulfur-based active material is at least one selected from the group consisting of elemental sulfur, solid Li_2S_n ($n \geq 1$), a catholyte in which Li_2S_n ($n \geq 1$) is dissolved, an organosulfur compound, and a carbon-sulfur polymer.

3. (PREVIOUSLY PRESENTED) The positive electrode of claim 1, wherein the pores of said current collector comprise at least 80% porosity of an overall volume of said current collector.

4. (ORIGINAL) The positive electrode of claim 1, wherein the pores of said current collector comprise at least 80 to 90% porosity of an overall volume of said current collector.

5. (CURRENTLY AMENDED) The positive electrode of claim 1, wherein said porous current collector comprises the metal foam comprising a resin foam coated with a metal, where the coated resin foam is subjected to a pyrolysis process.

6. (ORIGINAL) The positive electrode of claim 5, wherein said porous current collector further comprises a conductive agent.

7. (CURRENTLY AMENDED) The positive electrode of claim 1, wherein said porous current collector comprises a~~the~~ non-woven fabric coated with a metal.

8. (ORIGINAL) The positive electrode of claim 1, wherein said porous current collector comprises a carbon fiber.

9. (ORIGINAL) The positive electrode of claim 5, wherein the metal is coated using a coating method that comprises one of electroplating and electroless plating.

10. (ORIGINAL) The positive electrode of claim 7, wherein the metal is coated using a coating method that comprises one of electroplating and electroless plating.

11. (ORIGINAL) The positive electrode of claim 5, wherein the metal is at least one selected from the group consisting of nickel, aluminum, and mixtures thereof.

12. (ORIGINAL) The positive electrode of claim 7, wherein the metal is at least one selected from the group consisting of nickel, aluminum, and mixtures thereof.

13. (CURRENTLY AMENDED) A lithium-sulfur battery comprising:
a positive electrode comprising a current collector having pores comprising at or greater than 60% porosity and less than 90% porosity based on an overall volume of said current collector, a sulfur-based active material, a conductive agent, and a binder disposed in the pores of the current collector;

a negative electrode comprising a negative active material selected from the group consisting of a material which can reversibly intercalate/deintercalate lithium ions, a material which can reversibly reform a chemical compound with lithium, a lithium metal, and a lithium-containing alloy;

a separator interposed between said positive electrode and said negative electrode; and
an electrolyte impregnated into said negative electrode, said positive electrode, and said separator, and which comprises a lithium salt and an organic solvent,

wherein the current collector comprises one of a metal foam having the pores and a non-woven fabric coated with a metal to provide the pores.

14. (PREVIOUSLY PRESENTED) The lithium-sulfur battery of claim 13, wherein the sulfur-based positive active material is at least one selected from the group consisting of elemental sulfur, solid Li_2S_n ($n \geq 1$), a catholyte in which Li_2S_n ($n \geq 1$) is dissolved, an organosulfur compound, and a carbon-sulfur polymer.

15. (PREVIOUSLY PRESENTED) The lithium-sulfur battery of claim 13, wherein the pores of the current collector comprise at least 80% porosity of an overall volume of the current collector.

16. (ORIGINAL) The lithium-sulfur battery of claim 13, wherein the pores of the current collector comprise 80 to 90% porosity of an overall volume of the current collector.

17. (CURRENTLY AMENDED) The lithium-sulfur battery of claim 13, wherein the porous current collector comprises the metal foam comprising a resin foam coated with a metal, where the coated resin foam was subjected to a pyrolysis process.

18. (PREVIOUSLY PRESENTED) The lithium-sulfur battery of claim 17, wherein the conductive agent was added to the resin foam prior to the coated resin foam being subjected to the pyrolysis process.

19. (CURRENTLY AMENDED) The lithium-sulfur battery of claim 13, wherein the porous current collector comprises athe non-woven fabric coated with athe metal.

20. (ORIGINAL) The lithium-sulfur battery of claim 13, wherein the porous current collector comprises a carbon fiber.

21. (ORIGINAL) The lithium-sulfur battery of claim 17, wherein the metal is coated using a coating method that is one of electroplating and electroless plating.

22. (ORIGINAL) The lithium-sulfur battery of claim 19, wherein the metal is coated using a coating method that is one of electroplating and electroless plating.

23. (ORIGINAL) The lithium-sulfur battery of claim 17, wherein the metal is at least one selected from the group consisting of nickel, aluminum and mixtures thereof.

24. (ORIGINAL) The lithium-sulfur battery of claim 19, wherein the metal is at least one selected from the group consisting of nickel, aluminum and mixtures thereof.

25. (PREVIOUSLY PRESENTED) A lithium sulfur battery, comprising:
- a positive electrode comprising a current collector having pores and with each pore having a conductive surface, and a positive active mass comprising a sulfur-based active material disposed in the pores contacting the conductive surfaces;
 - a negative electrode comprising a negative active material selected from the group consisting of a material which can reversibly intercalate/deintercalate lithium ions, a material which can reversibly reform a chemical compound with lithium, a lithium metal, and a lithium-containing alloy; and
 - an electrolyte to transfer metal ions and to separate said positive and negative electrodes,
- wherein the current collector comprises a carbon coated aluminum current collector.
26. (ORIGINAL) The lithium sulfur batter of claim 25, wherein said electrolyte comprises one of a glass electrolyte, a polymer electrolyte, and a ceramic electrolyte.
27. (ORIGINAL) The lithium sulfur batter of claim 26, wherein said electrolyte further comprises an electrolyte salt.
28. (ORIGINAL) The lithium sulfur batter of claim 27, wherein said electrolyte further comprises less than 20 % of a non-aqueous organic solvent, and a gelling agent to reduce a fluidity of the organic solvent.
29. (ORIGINAL) The lithium-sulfur battery of claim 25, wherein the pores of the porous current collector comprise at least 60% porosity of an overall volume of the porous current collector.
30. (PREVIOUSLY PRESENTED) The lithium-sulfur battery of claim 25, wherein the porous current collector comprises a resin foam coated with a metal including the aluminum.
31. (PREVIOUSLY PRESENTED) The lithium-sulfur battery of claim 25, wherein the porous current collector comprises a non-woven fabric coated with a metal including the aluminum.
- 32-41. (CANCELLED)

42. (PREVIOUSLY PRESENTED) The lithium-sulfur battery of claim 25, wherein the pores of the current collector comprise 80 to 90% porosity of an overall volume of the current collector.

43. (PREVIOUSLY PRESENTED) The lithium-sulfur battery of claim 25, wherein the pores of the current collector comprise 60 to 90% porosity of an overall volume of the current collector.